

**OPTICAL COATINGS AND ASSOCIATED METHODS**

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**ABSTRACT**

An optical coating for a substrate comprises an amorphous material, which includes titanium oxide and one or more additives. Titanium oxide and the additive in an oxidized state do not form a solid solution. The amorphous material may be used in low-emissivity, double low-emissivity, and anti-reflection coatings. A method for coating a substrate comprises depositing a first anti-reflection layer of a dielectric over a substrate, depositing a metallic layer over the anti-reflection layer, and depositing a second anti-reflection layer of a dielectric over the metallic layer. At least one of the first anti-reflection layer and the second anti-reflection layer comprises the amorphous material.

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